

Making Solutions Activity

Materials

- ☐ 100 mL graduated cylinder
- ☐ Balance
- ☐ 2 -250 mL beakers
- ☐ Stirring rod
- ☐ Water
- ☐ Sodium chloride
- ☐ Food colouring
- ☐ 100 mL volumetric flask
- ☐ 6 test tubes
- ☐ Test tube rack
- ☐ Pipette
- ☐ Pipette bulb



Part 1: Making a Standard Solution

1. Calculate the amount of sodium chloride needed to prepare 100 mL of 0.5 mol/L aqueous sodium chloride solution. Show all of your calculations. Get your teacher to check your calculations.
2. Prepare the solution. Add several drops of food colouring until your solution becomes a rich, dark colour.
3. Pour your solution back into your beaker for use in Part 2 of this activity.

Part 2: Serial Dilutions

1. Obtain 6 test tubes
2. Transfer 10 mL of your 0.5 mol/L solution of sodium chloride to the first test tube
3. From that test tube, remove 1 mL of solution and add it to test tube 2
4. Add 9 mL of water to test tube 2
5. From test tube 2, remove 1 mL of solution and add it to test tube 3
6. Add 9 mL of water to test tube 3
7. From test tube 3, remove 1 mL of solution and add it to test tube 4
8. Add 9 mL of water to test tube 4
9. From test tube 4, remove 1 mL of solution and add it to test tube 5
10. Add 9 mL of water to test tube 5
11. From test tube 5, remove 1 mL of solution and add it to test tube 6
12. Add 9 mL of water to test tube 6
13. Compare the colour intensity between each of the test tubes

